International Boundary and Water Commission
United States and Mexico

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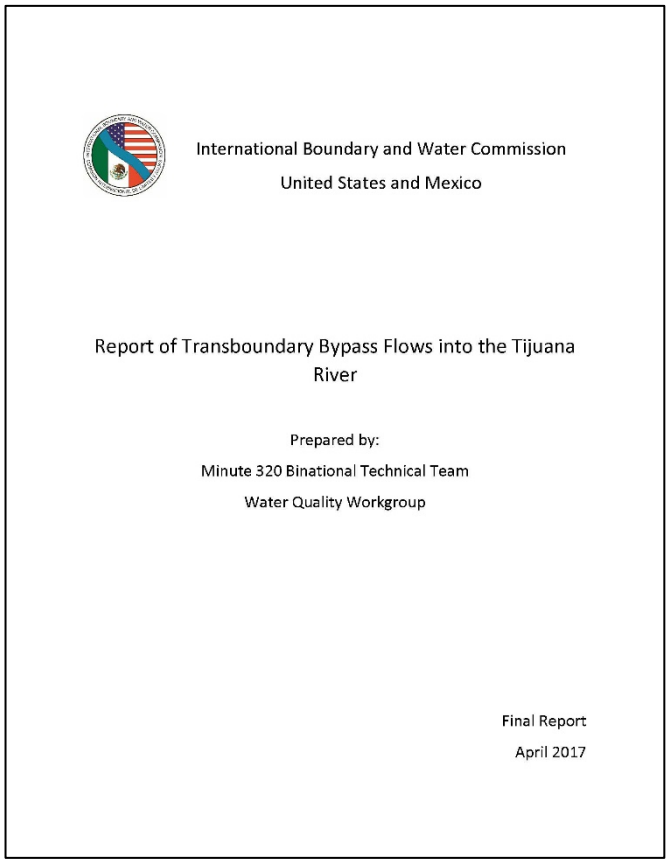
TRANSBOUNDARY ISSUES IN THE TIJUANA RIVER BASIN NEWSLETTER

Minute 320 Spill Investigation

On February 1, 2017, a section of the 48-inch diameter "Insurgentes" Sewer Collector collapsed near the confluence of the Rio Alamar and Tijuana River, in Tijuana, Baja California causing an undetermined amount of wastewater to be released into the Tijuana River flowing through Mexico and the United States. The International Boundary and Water Commission, United States and Mexico (IBWC) initiated an investigation into the cause and to understand issues that arose from that action. The final report entitled, "Report of Transboundary Bypass Flows into the Tijuana River" was released in April 2017. The report is available for download on the IBWC web site (www.ibwc.gov).


International Boundary and Water Commission
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Report of Transboundary Bypass Flows into the Tijuana River

Prepared by:
Minute 320 Binational Technical Team
Water Quality Workgroup

Final Report
April 2017

Recommendations made to address the issues as determined in the report were presented to the Minute 320 workgroups to initiate. The recommendations are:

- Acquire the equipment needed to address spills in the future.
- Installation of flow meters to monitor flows in the system and to determine the volume of wastewater entering the river in the event of another spill.
- Development of communication protocols both local and binational.
- Assess the current infrastructure to determine infrastructure improvements to prevent future breaks and to contain spills.
- Repair and rehabilitation of existing infrastructure.
- Expanded water quality monitoring.
- Tours and observations of critical needs sites.

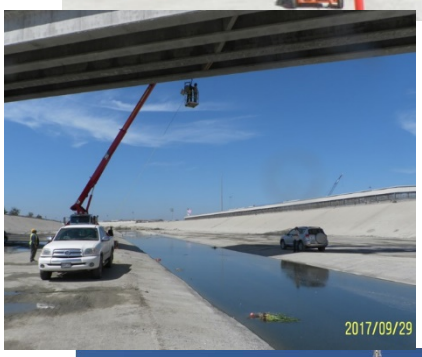
Equipment needed to address emergency situations

To date, CESPT, the Tijuana municipal utility, has acquired one of the two pumping trucks needed to divert flow in a 60-inch line similar to the pipe that ruptured in February. The pump can handle 300 liters per second, to include solid waste. A second truck is being purchased, and should be acquired by the end of the year.

CESPT contemplates a total investment of $39.2 million pesos ($2.2 million U.S. dollars) to purchase compressors and also soil compaction equipment to repair the affected sites.

CESPT also plans to purchase sediment removal equipment to clean drains and prevent sewer overflows, including miniature equipment for access points in narrow and sloping roads; two cameras to replace those damaged during the spill, which will allow CESPT to inspect all of the collection network; so, they need two (2) additional cameras; five (5) hydraulic hammers, since roads are being converted from asphalt to concrete; and five (5) light systems for night work.

Flow Meters



USIBWC - A flow meter was installed between the diversion and the wet well at Pump Station - CILA (PB-CILA) The meter is able to transmit data via the Internet on the status of the pump and the flow. Installation was completed on 10/26/17.

USIBWC is also discussing with Mexico the installation of a means of measuring flow in the wastewater channel going to the San Antonio de los Buenos Wastewater Treatment Plant. Upon reaching an agreement, we should be able to perform the installation in a few months.

MxIBWC –The Mexican Section has installed one flow measuring system in the Rio Alamar and two in the Tijuana River during October 2017. The systems in the Tijuana River are located a couple of meters upstream of the international boundary, and upstream of PB-CILA, to provide real-time alerts of any flows not captured by PB-CILA. In the rainy season when the flow is over 1,000 liters per second (25 MGD), the pump station is turned off. These meters allow dry weather reports. The sensor upstream of PB-CILA measures flows near the intake, using a radar system that is installed on a bridge above the water. According to the agreed protocol, debris must be removed from the intake of PB-CILA every two (2) hours. The radar sensor indicates when the level is rising, and will provide alerts by text or email. Final installation and calibration of the meters was conducted on October 26-27, 2017.

A flow meter was also installed in the Rio Alamar, which receives flow from the city of Tecate. The meters are able to send the data via telemetry so that the data is visible on the internet.

Communication

The protocols recommended in the report have all been completed and are in effect.

IBWC Notification Protocol – A final protocol has been developed. When the U.S. Section gets a notification from the Mexican Section or other entities in the United States, USIBWC sends out a preliminary listserv notification of a transboundary flow and requests from its Mexican counterpart more information about the incident. Details about the incident are established during the back and forth between various agencies of both countries. A final spill report is provided to the State of California Regional Water Quality Control Board within 72 hours. An exchange of IBWC letters formalized the protocol on September 21, 2017.

Mexican Notification Protocol – The investigation report also recommended a notification protocol assuring that CESPT would include the Mexican Section of IBWC in its Contingency Plan. CESPT confirmed they have added MXIBWC in their current protocol. Also, a CESPT official has been assigned to notify MxIBWC on spills with a potential transboundary impact, including possible effects on potable water. The protocol was finalized and signed in August 2017.

PB-CILA Operations Protocol –Under the framework of Minute 320, it was recommended that written procedures for the operation of Pump Station CILA be developed. The Operation Protocol was developed jointly by both Sections of IBWC together with CESPT, and it outlines operations of PB-CILA for both wet and dry seasons. A final protocol was written and an exchange of IBWC letters formalized the protocol on September 21, 2017.

Infrastructure Assessment

The February spill demonstrated the need to evaluate requirements for repairing and expanding current infrastructure. The IBWC is considering expansion of the current defensive works in the United States or Mexico, or constructing new ones. The USIBWC developed a Scope of Work (SOW) to assess these options, determining their feasibility, costs, and possible designs. The Border Environment Cooperation Commission (BECC) has taken the USIBWC SOW and finalized the SOW to address the investigation report recommendations and fund the study. The SOW will look at the existing works in an effort to improve the system by analyzing options such as additional pumps, larger and more efficient pumps, and other ways of increasing flow capacity. The desired improvements will help bring pumps back on line, reduce flows to the Tijuana River through reuse and aquifer recharge, and mitigate the effects on transboundary flows. U.S. and Mexican delegations met in October 2017 to review and provide comments on the SOW. BECC is incorporating the final comments into the SOW and will solicit a request for proposals in the near term for the development of this study.

Infrastructure Works

CESPT's priority is the rehabilitation of collectors affected by the past rains. CESPT is involved in emergency and comprehensive repairs to their sewer collection system. Works done to address the damaged sewer lines consist of the rehabilitation of several damaged sections of the Insurgentes, Oriente, Poniente, and San Martín-Canyon del Sainz collectors.

To date, the government of the State of Baja California through CESPT has invested under the emergency declaration $68.6 million pesos ($3.9 million dollars), in rehabilitation of damaged sewer lines, equipment and cleaning of sewer collectors. Mexico will also exercise towards this project another $102.1 million pesos ($5.8 million dollars) for a total investment of $170.7 million pesos ($9.7 million dollars).

Water Quality Sampling

In accordance with this recommendation, the IBWC developed a draft water quality monitoring program that established seven (7) routine sites in the Tijuana River: four (4) sites in the United States, and three (3) in Mexico. In recent talks with the Customs and Border Protection and the State of California, USIBWC is now looking to expand the sampling to include transboundary flows crossing through the canyons along the watershed for a total of ten (10) sites in the United States.

Additionally, Comisión Nacional del Agua de México (CONAGUA) has established sites in the Tijuana River and Rio Alamar as part of their national water quality monitoring network. CONAGUA established several sites, including two (2) sites on the Tecate River in Tecate, Baja California (before it becomes the Rio Alamar), three (3) sites in the Rio Alamar (one of them immediately upstream from the confluence with the Tijuana River), one (1) site in Arroyo Florido before its confluence with the Tijuana River, and six (6) sites on the Tijuana River. The sampling frequency of the CONAGUA sites is bimonthly and collects conventional parameters (e.g. ammonia, phosphorous, and nitrates among other), metals, and bacteria.

Binational Observations

After the February spill, the public's lack of familiarity with the infrastructure and defensive works led to confusion about the condition of the sewer system and the location of the damaged pipes. The Minute 320 workgroups made a recommendation to conduct routine, binational observations of the system and locations that contain transient flows, damaged infrastructure, discharges to the river, and /or ongoing rehabilitation projects. The IBWC already conducts monthly inspection tours of the Tijuana River to detect spills. The IBWC developed an initial plan to conduct joint observations of the Tijuana River and infrastructure prior to binational technical committee meetings to gain a visual understanding of the issues and the progress. An initial set of locations was jointly developed with the understanding that the locations can be modified based on public interest, recommendations of the committee members, and emerging challenges requiring attention. The plan for the tours should be finalized by the end of the year so that committee members can begin the site visits in early 2018. As a trial run, In October the USEPA along with CESPT and the IBWC visited many of the sites that are currently inspected.

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